

Claims

1. A method for controlling power consumption during a rock drilling process with a rock drilling apparatus, wherein the rock drilling apparatus includes main power supply means for supplying power for the rock drilling process, which includes at least the sub-processes of percussion and/or rotation and flushing, the method comprising the steps of:

5 - adjusting the flush power at least partly as a function of hole depth, and
10 - controlling at least the percussion power and/or rotational power and the flush power such that the total power consumption of each sub-process is controlled.

15 2. Method according to claim 1, **characterised in** that the flush power further is adjusted at least partly as a function of hole diameter and/or diameter of the drill rod.

20 3. Method according to claim 1 or 2, **characterised in** that the total power consumption of each sub-process is controlled such that the power output from the main power supply means is kept at or below a predetermined level.

25 4. Method according to any of the claims 1-3, **characterised in** that the flow of the flush medium is kept substantially constant throughout the drilling process.

30 5. Method according to any of the claims 1-3, **characterised in** that the flow of the flush medium is increased with increasing hole depth.

6. Method according to any of the claims 1-5, **characterised in** that the hole depth is continuously measured.

7. Method according to any of the claims 1-6, **characterised in** that the flow of the flush medium is continuously measured.

5 8. Method according to any of the claims 1-7, **characterised in** that the required flush power is determined by computer means.

10 9. Method according to claim 8, **characterised in** that the computer means is connected to a memory in which is stored a table comprising one or more lists at least partly including type of drill tool and/or type of drill rod and/or hole depth and that the flush power is determined based on stored values.

15 10. Method according to any of the claims 1-9, **characterised in** that percussion is performed by a hydraulic top hammer.

20 11. System for controlling power consumption during a rock drilling process with a rock drilling apparatus, wherein the rock drilling apparatus includes main power supply means for supplying power for the rock drilling process, which includes at least the sub-processes of percussion and/or rotation and flushing, the system comprising:

25 - means for adjusting the flush power at least partly as a function of hole depth, and
- means for controlling at least the percussion power and/or rotational power and the flush power such that the total power consumption of each sub-process is controlled.

30 12. System according to claim 11, **characterised in** that it further includes means for adjusting the flush power at least partly as a function of hole diameter and/or diameter of the drill rod.

13. System according to claim 11 or 12, **characterised in** that the system is arranged to control the total power consumption of each sub-process such that the power output from the main power supply means is kept at or below a predetermined level.

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14. System according to any of the claims 11-13, **characterised in** that the system is arranged to keep the flow of the flush medium substantially constant throughout the drilling process.

10 15. System according to any of the claims 11-13, **characterised in** that the system is arranged to increase the flow of the flush medium with increasing hole depth.

15 16. System according to any of the claims 11-15, **characterised in** that the system is arranged to continuously measure the hole depth.

20 17. System according to any of the claims 11-16, **characterised in** that the system is arranged to continuously measure the flow of the flush medium.

18. System according to any of the claims 11-17, **characterised in** that the system is arranged to determine the required flush power by computer means.

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19. System according to claim 18, **characterised in** that the computer means is connected to a memory arranged to store a table comprising one or more of lists at least partly including type of drill tool and/or type of drill rod and/or hole depth, and that the flush power is arranged to be determined based on stored values.

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20. System according to any of the claims 11-19, **characterised in** that percussion is arranged to be performed by a hydraulic top hammer.

5 21. Rock drill apparatus, **characterised in** that is arranged to include a system according to any of the claims 11-20.